

Climatological Data for July, 1909.

DISTRICT No. 3, OHIO VALLEY.

FERNAND J. WALZ, District Editor.

TEMPERATURE.

With the exception of a small area bordering the extreme southwest, the temperature over the entire district was below normal. Beginning in the southwest, this deficiency, as a rule, gradually increased toward the north and northeast, until, in the northern portion of Indiana, the average temperature of the month was 4° to 5° below normal July conditions; in the western parts of Pennsylvania and New York it was 3° to 4° below normal. There were also considerable areas in central Kentucky, central and western Ohio, and portions of the Appalachian section where the average temperature was from 3° to 4° below normal conditions.

The first two days of the month were quite warm generally, but an area of high pressure from the northwest, moving eastward to the middle Atlantic states, caused a decided cool wave over the entire district during the four or five days succeeding. On the morning of the 4th, some unusually low temperatures were registered. Another cool wave overspread the district from the 18th to 21st, during which time the temperature was again quite low. The minimum for the month was registered at a great many places on the 20th. On this date, the following unusually low temperatures were reported: In North Carolina, 38° ; Virginia, 36° ; Tennessee, 40° ; Kentucky, 42° , and West Virginia, 36° .

Light frost was reported in the bottom lands of Harrison Co., Ohio, the mornings of the 4th and 19th, and in West Virginia, in one or two counties, the mornings of the 8th, 19th and 20th; while in the mountain districts of Pennsylvania, the temperature came dangerously near the frost line on several mornings. From the 24th to the 28th, another cool area overspread this district, but the temperature was not so abnormally low as in the preceding cool period. During the last three or four days of the month there was a decided warming up, when temperatures generally became either normal, or rose above.

PRECIPITATION.

The rainfall over the districts as a whole was decidedly variable. In the main it was ample and mostly above normal. It appears that to the southward and eastward of the district the rainfall was below normal to a marked extent; but beginning almost at the boundary of the district, the amounts became normal, and increased, as a rule, toward the Ohio River. In the Tennessee River Basin of the Gulf States and of Tennessee, the rainfall averaged between 4 and 6 inches. But in the Cumberland drainage area of central Tennessee the monthly amount was below 3 inches, while in the western part of the same State, from 10 to 12 inches, the greatest amount in the whole district was reported. Nearly as large amounts fell over the drainage basin of the Great Kanawha in West Virginia, also over a comparatively small area in Indiana lying immediately north of Louisville and comprising the headwaters of the east fork of

White River. The next amounts of special importance were in the east-central portions of Illinois, where between 8 and 9.5 inches occurred. Over central Kentucky, the southern portions of Indiana, along northern Kentucky, and extending eastward to central West Virginia, the amounts ranged from 6 to 8 inches. Over the greater portions of Ohio, western Pennsylvania, and southwestern New York the rainfall for the month was below normal, the amounts decreasing gradually in a north-easterly direction, until, in the extreme northeastern part of the district, the deficiency in rainfall was so marked as to cause injury more or less serious. Over the drainage area of the Allegheny River and the lower portion of the Monongahela the rainfall ranged between 1.25 and 3 inches. Like amounts occurred over a considerable part of northern Indiana and Ohio. In Pennsylvania nearly all the rain occurred in the last half of the month. In West Virginia, Kentucky, Tennessee, and the southern portions of Indiana and Illinois the showers were very frequent throughout the month and there were numerous heavy rainfalls of a more or less general nature. Over a considerable portion of the sections last named the rainfall was the heaviest for any July, with a few exceptions, during the past two decades.

In Kentucky there were numerous severe thunderstorms in all parts of the State, and damage by floods, wind squalls and lightning was considerable. There were also a number of deaths from lightning and several destructive hailstorms, the latter being confined to small areas. Thunderstorms were particularly numerous during the first half of the month. Thunderstorms seemed to have been more numerous and pronounced in Kentucky than in any other part of the district. The Ohio River seemingly marked the main track of these disturbances.

In Illinois there were several violent and destructive thunderstorms on the 13th and 15th. In the afternoon of the 11th a storm of great violence, with reported tornadic characteristics, passed over Vermilion County, Illinois, and was very destructive from the wind and rain. In Indiana local thunderstorms, attended by hail, high winds, and excessive rainfall occurred on the 12th, 13th, 29th, and 30th. Also there were several fatalities from lightning and a number of barns burned. In Ohio, particularly in the southern part, there were a number of severe thunderstorms attended by hail and wind squalls. A number of buildings were struck by lightning and burned. The most pronounced storms, and those doing the greatest damage, occurred in Butler and Green counties, Ohio, the afternoon of the 13th, when, besides unroofing buildings, leveling barns, and delaying traffic, there were several persons killed. There was also much damage from thunderstorms over the middle portions of Ohio on the 29th. Heavy and damaging thunderstorms occurred in the eastern portion of the Monongahela Basin the night of the 29-30th. Hailstorms occurred in Indiana on the 12th, 13th, 16th, 30th, and 31st, being more numerous than in any other State of the district.

TABLE 1.—Climatological data for July, 1909. District No. 8, Ohio Valley.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.				Precipitation, in inches.				Sky.	Prevailing wind direction.	Observers.					
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeasured.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
<i>New York.</i>																			
Allegany.	Cattaraugus.	1,441	3	65.4		88	15	37	5†	45	3.62		0.87	0.0	14	16	11	4	n.w.
Bolivar.	Allegany.	1,800	13	65.2	-1.4	90	11	34	5	45	1.38	-4.81	0.57	0.0	8	11	9	11	w.
Franklinville.	Cattaraugus.	1,598	12	64.7	-3.3	86	12†	37	20	42	2.69	-2.37	0.82	0.0	11	14	8	9	s.
Jamestown.	Chautauqua.	1,365	19								3.06	-1.65	0.88	0.0	12	8	10	4	w.
Olean.	Cattaraugus.										2.72		1.13	0.0	8	21	5	5	se.
<i>Maryland.</i>																			
Deer Park.	Garrett.	2,457	15	69.8	+ 3.0	94	14	32	20	52	4.27	-0.79	1.00	0.0	8				S. P. Specht.
Grantaville.	do.	2,351	15	64.8	-3.5	81	11	42	20	38	1.25	-3.86	0.80	0.0	4	10	12	9	J. S. Miller.
Oakland.	do.	2,461	9	64.5		86	1	33	20	43	3.06	-1.65	0.88	0.0	12	8	10	4	R. E. Weber.
<i>Pennsylvania.</i>																			
Aleppo.	Greene.	1,135	8	69.2		91	1	41	4†	42	4.50	-0.68	0.94	0.0	9	18	6	7	n.w.
Baldwin.	Butler.	1,404	3	67.9		86	2†	44	4†	35	2.79		0.80	0.0	10	17	12	2	w.
California.	Washington.	770	6	71.6		93	1	46	4	37								sw.	
Claysville.	do.	1,127	5	70.0		94	1	40	19†	43	3.43		0.85	0.0	11	15	15	1	w.
Derry Station.	Westmoreland.	1,172	12	70.5	-3.4	93	1†	41	6	45	2.50	-2.76	1.40	0.0	8	20	1	10	w.
Franklin.	Venango.	955	35	67.2	-4.2	87	10†	40	5	41	3.35	-1.40	1.85	0.0	5	14	12	5	e.
Freeport.	Armstrong.	772	31								2.82	-1.69	1.30	0.0					
Greensburg.	Westmoreland.	1,100	1	70.0		89	1	43	4	35	3.06		1.26	0.0	10	18	8	5	sw.
Greenville.	do.	950	13	68.9	-1.6	90	2†	41	4	43	1.18	-3.98	0.31	0.0	7	27	4	0	n.
Grove City.	Indiana.	1,250	2	67.6		88	29	41	5	36	2.68		0.82	0.0	8	12	13	6	s.
Indiana.	Westmoreland.	1,350	12	69.2	-1.3	91	10	42	5	40	3.41	-1.33	1.70	0.0	9	12	14	5	w.
Irwin.	Cambridge.	884	12	70.6	-2.4	90	1†	44	5	41	1.63	-3.05	0.68	0.0	10	8	20	3	e.
Johnstown.	Westmoreland.	1,184	21								3.1		1.57	1.65	0.0	14			
Lycetts.	Westmoreland.	1,420	17	70.2	-2.5	89	10	45	4	32	3.5	-1.64	1.62	0.0	9				
Pittsburgh.	Allegheny.	842	39	71.2	-3.4	88	1	50	4	28	1.2	-3.20	0.48	0.0	9	9	16	6	n.w.
Saegerstown.	Crawford.	1,116	18	66.7	-2.6	87	12	39	5	42	2.64	-2.16	0.65	0.0	8	10	13	8	w.
St. Marys.	Elk.	1,740	11	67.8	-1.4	87	13†	42	5	33	.05	-2.08	1.70	0.0	6	16	14	1	
Skidmore.	Lawrence.	1,000	5	67.7		89	1	41	20	39	1.95		0.60	0.0	6	22	3	6	n.w.
Somerset.	Somerset.	2,250	53	67.4	-1.2	88	10†	41	5†	43	2.44	-2.47	1.30	0.0	7	8	20	3	sw.
Uniontown.	Fayette.	999	21	70.6	-2.5	90	17	47	19†	33	4.03	-1.64	0.89	0.0	12	1	25	5	sw.
Warren.	Warren.	1,137	20	65.8	-3.9	86	11	39	5	39	2.78	-2.61	1.86	0.0	7	23	1	7	e.
<i>West Virginia.</i>																			
Arboretum.	Pocahontas.	1	64.0			85	29†	37	20	39	3.70		1.72	0.0	13	13	14	4	n.w.
Bancroft.	Putnam.	5	72.8			93	29	50	4†	31	5.21		1.68	0.0	13	14	10	7	sw.
Beckley.	do.	2,440	10	67.9	-4.3	90	1	43	19†	36	10.50	+ 7.02	2.30	0.0	12	14	10	7	w.
Ben's Run.	Pleasants.	622	6	71.9		91	1	49	4†	31	3.40		0.80	0.0	9	23	7	1	
Bluefield.	Mercer.	2,563	12	68.8	-3.0	86	1	45	25	31	4.44	-0.17	1.40	0.0	15	19	9	3	
Buckhannon.	Upshur.	1,472	13	69.4	-3.3	89	1	43	20	36	4.51	-0.09	1.00	0.0	12	19	7	5	
Cairo.	Ritchie.	607	7	72.2		93	2	46	20	38	5.61		1.57	0.0	11	4	20	7	s.
Central Station ^b .	Doddridge.	900	9	69.1	-4.6	90	30	41	19†	39	3.07	-1.17	0.69	0.0	11	9	15	5	sw.
Charleston.	Kanawha.	598	6	74.1		90	1†	52	4	38	5.60	+ 1.78	1.62	0.0	11	22	5	4	w.
Creston.	Wirt.	612	7	73.2		93	29	48	20	37	4.91		1.57	0.0	9	13	12	6	w.
Cuba.	Jackson.	544	7	70.2		90	1	39	19	43	4.80		1.56	0.0	12	11	17	3	w.
Doane.	Wayne.	4																	
Ekhorn.	McDowell.	1,933	14	60.4	-3.0	87	1†	45	20	34	7.89	+ 2.77	2.04	0.0	10	7	22	2	sw.
Elkins.	Randolph.	1,940	10	67.8	-2.7	86	1	44	20	37	4.85	+ 0.21	1.79	0.0	14	10	13	8	w.
Fairmont.	Marion.	879	4	71.4		94	1	42	4	42	3.30	-1.63	0.63	0.0	10	12	4	15	sw.
Glenville.	Gilmer.	738	14	72.8	-1.4	93	1†	46	4	38	4.31	-1.01	1.10	0.0	10	12	4	15	sw.
Grafton.	Taylor.	985	16																
Green Sulphur Springs.	Summers.	1,600	12																
Hinton.	do.	1,400	13	71.6	-3.0	80	31	52	20	30	5.54	+ 2.04	2.00	0.0	13	18	0	10	w.
Huntington.	Cabell.	510	13	74.4	-2.6	94	12†	51	4	34	4.58	+ 0.20	1.64	0.0	12	10	9	9	w.
Lewisburg.	Greenbrier.	2,200	8	69.0		91	31	42	20	37	2.73	-1.21	1.26	0.0	8	18	9	4	w.
Logan.	Logan.	665	7	73.0		94	31	50	4	34	7.81		4.26	0.0	13	26	3	26	w.
Lost Creek.	Harrison.	1,033	11	70.0	-2.8	90	29	43	4	38	5.52	+ 0.43	1.20	0.0	8	17	10	4	w.
Madison.	Boone.	704	4	72.6		92	11	49	3	34	6.38		1.20	0.0	15	15	12	4	w.
Mannington.	Marion.	967	6	70.1		92	30	43	4†	43	3.12		0.95	0.0	10	16	11	4	sw.
Martinton.	Monongalia.	1,250	13	70.5	-3.3	92	29	46	4†	31	3.11	-2.18	0.94	0.0	10	16	8	7	s.
Marlinton.	Pocahontas.	2,189	10	64.8	-5.2	81	29	44	28	42	3.16		1.16	0.0	10	23	3	5	sw.
Moundsville.	Marshall.	640	6	72.8		93	1	42	20	40	3.16		1.48	0.0	11	12	12	7	
New Cumberland.	Hancock.	987	9	68.8		90	1	45	19†	35	4.04		1.48	0.0	11	12	9	4	sw.
New Martinsville.	Wetzel.	634	14	73.1	-2.5	93	1	48	4†	39	4.05	-1.08	1.22	0.0	10	24	4	3	sw.
Nuttallburg.	Fayette.	2,252	12	66.4	-6.4	88	29	44	5†	30	8.12	+ 4.12	2.18	0.0	15	11	9	9	w.
Parkersburg.	Wood.	638	21	72.4	-3.2	90	30	51	20	32	4.78	+ 0.12	1.57	0.0	14	16	8	7	w.
Parsons.	Tucker.	1,662	7	67.3		87	11†	41	20	41	5.88	+ 1.47	1.57	0.0	10	14	10	7	w.
Philippi.	Barbour.	1,192	10	69.0	-3.6	90	28	40	20	39	4.89	-1.48	0.67	0.0	14	15	6	6	w.
Pickens.	Randolph.	2,785	16	65.8	-3.5	87	1†	42	19†	36	6.01	-0.29	1.90	0.0	9	19	9	3	w.
Pineville.	Wyoming.	1																	
Point Pleasant.	Mason.	553	14	72.0	-4.8	92	29	50	4†	34	3.87	-0.08	1.24	0.0	12	8	3	20	sw.
Powellton ^a .	Fayette.	904	13	72.5	-0.8	92	1	48	20	35	4.59	+ 0.29	0.91	0.0	14	1	6	23	n.
Princeton.	Mercer.	2,469	6	64.5		80	12	44	20	39	5.80		2.00	0.0	10	11	16	4	w.
Robertsburgh.	Putnam.	718	13			92	29	48	20	35	2.57		0.95	0.0	11	12	11	5	sw.
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MONTHLY WEATHER REVIEW.

JULY, 1909

TABLE 1.—Climatological data for July, 1909. District No. 3—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.				Precipitation, in inches.				Sky.	Prevailing wind direction.	Observers.					
				Mean.	Highest.	Lowest.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeasured.	Number of rainy days, 1/1 inch or more.	Number of partly cloudy days.	Number of cloudy days.					
<i>Ohio—Cont'd.</i>																			
Cincinnati.....	Hamilton.....	628	39	74.0	-3.7	94	29	56	24	3.83	+0.29	1.17	0.0	12	8	14	9	se.	
Circleville.....	Pickaway.....	694	15	72.6	-2.9	93	1	51	20	4.51	+0.95	1.50	0.0	8	8	11	11	sw.	
Clarington.....	Monroe.....	600	7	70.6		90	14	45	41	3.50	-1.63	1.39	0.0	11	7	12	12	sw.	
Clarkesville.....	Clinton.....	1,010	23	72.4	-2.5	91	30	51	49	2.97	+0.74	0.83	0.0	11	13	2	11	w.	
Columbus (1).....	Franklin.....	918	32	72.0	-3.3	91	29	54	4	3.34	-0.31	1.14	0.0	14	11	10	10	sw.	
Columbus (2).....	do.....	757	27	70.8	-2.7	91	29	49	47	3.1	+1.24	1.09	0.0	14	8	12	11	sw.	
Columbus (3).....	do.....	1	72.8			90	30	53	20	3.3									
Columbus Reservoir.....	do.....																		
Coosahton.....	Coshocton.....																	Superintendent.	
Dayton (1).....	Montgomery.....	790	27	72.2	-4.0	94	29	50	4	3.84	+1.63	1.24	0.0	12	14	12	5	sw.	
Dayton (2).....	do.....	16																Mrs. Ada Jeffries.	
Delaware.....	Belmont.....	927	13	70.2	-4.1	91	29	46	19	3.14	-1.13	1.01	0.0	11	15	2	14	sw.	
Demos.....	Ross.....	1,323	20	70.4	-2.5	92	1	47	4	3.35	-1.60	1.19	0.0	9	19	10	2	s.	
Frankfort.....	Portage.....	750	17	72.4	-2.1	92	28	50	47	3.08	-0.05	1.00	0.0	8	19	2	10	sw.	
Garretttsville.....	Granville.....	1,005	25	67.1	-2.7	89	12	40	5	4.41	-3.09	0.69	0.0	9	12	16	3	nw.	
Licking.....	Gradot.....	990	25	71.3	-2.0	92	17	46	29	3.55	-3.17	0.65	0.0	7	16	0	15	e.	
do.....	Adams.....	1,000	19	69.0	-3.2	88	30	50	47	3.33	-3.54	1.22	0.0	9	13	15	3	sw.	
Green.....	Green Hill.....	500	17	73.4	-2.3	94	31	50	47	3.12	-1.86	1.77	0.0	8	18	10	3	w.	
Greenville.....	Columbiania.....	1,135	16	66.8	-3.9	87	1	41	20	3.02	-0.78	1.40	0.0	10	15	13	3	sw.	
Hillsboro.....	Darke.....	1,060	24	71.2	-1.8	91	2	52	47	4.99	+2.10	1.20	0.0	12	16	5	10	11	
Ironton.....	Highland.....	575	27	74.1	-0.3	88	11	51	19	2.4	5.78	1.12	0.0	13	14	7	11	sw.	
Jacksonburg.....	Butler.....	975	22	72.0	-4.4	96	29	52	4	2.8	5.33	0.89	0.0	9	23	3	5	sw.	
Kenton.....	Hardin.....	7	70.2			90	29	47	19	3.7	1.95	2.54	1.03	0.0	12	14	5	12	ne.
Killbuck.....	Holmes.....	1,087	17	69.0	-3.8	89	22	47	20	3.19	-1.39	1.40	0.0	6	12	15	4	nw.	
Lancaster.....	Fairfield.....	895	14	70.8	-3.4	90	30	49	4	2.46	+0.19	0.97	0.0	13	19	4	8	sw.	
Lawshe.....	Adams.....	900	6	72.4		93	29	47	4	3.35	4.93	2.02	0.0	11	17	6	8	w.	
McConnellsburg.....	Morgan.....	710	26	71.0	-1.7	92	29	47	4	3.2	4.43	1.92	0.0	8	14	6	6	s.	
Marietta.....	Washington.....	627	66	73.9	+0.1	95	1	50	47	3.5	3.50	-1.13	1.19	0.0	9	15	8	8	sw.
Marion.....	Marion.....	980	19	72.2	-1.8	93	9	47	19	3.63	-0.39	1.12	0.0	10	20	1	20		
Mifflordton.....	Knox.....	1,200	17	69.8	-2.6	91	30	47	11	3.61	-0.53	1.50	0.0	8	23	7	1	sw.	
Perry.....	Adams.....	875	16	70.8	-3.0	91	29	47	20	3.38	-0.54	1.00	0.0	9	11	14	6	s.	
Milligan.....	Columbiania.....	1,145	18	67.9	-3.8	88	1	43	4	3.38	3.36	-0.92	0.0	9	7	22	2	sw.	
Nellie.....	Coshocton.....	850	0	68.9		90	30	42	33	3.43	-2.49	1.30	0.0	6	20	9	3	w.	
New Alexandria.....	Jefferson.....	1,050	25	68.8	-4.4	97	30	40	8	4.6	3.83	1.95	0.0	5	19	9	3	sw.	
New Berlin.....	Stark.....	1,100	17	68.9	-3.8	90	12	42	4	3.33	-1.24	1.50	0.0	9	23	5	3	n.	
New Richmond.....	Clermont.....	785	11	72.9	-3.7	92	11	53	4	4.75	-1.48	1.22	0.0	12	13	10	5	sw.	
New Waterford.....	Columbiania.....	1,053	16	68.6	-3.4	89	28	40	23	4.1	2.86	-1.74	1.33	0.0	6	20	5	4	sw.
North Lewisburg.....	Champaign.....	1,095																Sam. C. Scott.	
Orangsville.....	Trumbull.....	945	21	70.3	-3.6	90	1	7	4	4.43	+0.32	0.79	0.0	14	7	19	5	w.	
Patsaskala.....	Licking.....	1,050	17	70.3	-4.7	92	29	49	47	3.35	-1.29	0.68	0.0	11	14	12	5	nw.	
Philo (1).....	Muskingum.....	1,018	15	70.6		93	20	47	47	3.25	-0.88	0.0	0	10	12	16	3	sw.	
Philo (2).....	do.....	6	71.8															w.	
Plattsburg.....	Clark.....	1,150	17	69.4	-4.5	90	30	48	7	31	5.43	+1.16	0.95	0.0	13	12	17	5	sw.
Pomeroy.....	Meigs.....	781	26	72.8	-3.7	92	30	51	20	4.02	+0.13	1.56	0.0	13	12	14	5	w.	
Portsmouth.....	Scioto.....	527	79	73.2	-3.5	93	29	42	30	3.7	3.67	-0.34	1.26	0.0	9	15	4	12	sw.
Rittman.....	Wayne.....	990	17	63.8	-2.9	93	12	44	4	3.6	4.15	-0.71	1.72	0.0	9	21	8	2	n.
Shenandoah.....	Richland.....	1,100	18	68.2	-3.9	89	12	42	4	3.33	2.93	-1.99	1.16	0.0	10	8	21	2	sw.
Sidney.....	Shelby.....	985	15	72.2	-4.3	93	12	50	47	3.4	3.31	-0.16	1.70	0.0	13	16	7	8	sw.
Somerset.....	Perry.....	1,080	11	72.0	-3.8	93	1	51	19	3.1	4.25	-0.03	0.97	0.0	14	10	10	7	s.
Springfield.....	Clark.....																	Miss M. C. Sheridan.	
Summerfield.....	Noble.....	4	69.8			91	11	42	30	3.78	2.77	+3.66	1.52	0.0	15	8	17	6	sw.
Thurman.....	Gallia.....	696	17	72.2	-3.8	93	29	49	47	3.32	3.34	-0.89	0.0	10	7	15	9	w.	
Urbana.....	Champaign.....	1,081	14	71.4	-2.2	93	1	46	47	3.10	+1.62	1.88	0.0	11	11	17	3	nw.	
Warren.....	Trumbull.....	12	69.7	-2.8	91	12	43	5	40	3.51	-1.30	1.06	0.0	7	15	9	7	sw.	
Waverly.....	Pike.....	500	27	72.6	-3.2	93	1	45	20	3.99	-0.20	1.43	0.0	12	13	14	4	s.	
Waynesville*.....	Warren.....	700	25	69.9	-4.4	88	29	51	47	4.60	+3.18	0.74	0.0	16	15	8	8	sw.	
Wooster.....	Wayne.....	1,030	25	69.8	-1.6	89	12	45	4	3.35	4.05	-0.13	1.70	0.0	11	18	10	0	14
Youngstown.....	Mahoning.....																	Charles Michener.	
Zanesville.....	Muskingum.....																	Experiment Station.	
<i>Virginia.</i>																		G. R. Patton.	
Big Stone Gap.....	Wise.....	1,540	18	71.0	-1.5	86	2	50	20	29	4.37	-1.06	1.00	0.0	14	16	6	9	w.
Blacksburg.....	Montgomery.....	2,170	18	66.2	-5.0	87	1	41	20	37	3.47	-1.29	1.50	0.0	8	19	8	4	n.
Burkgarden.....	Tazewell.....	3,250	14	63.5	-4.1	81	3	36	20	38	5.91	+1.27	1.15	0.0	9	9	8	14	w.
Eel Knob.....	Lee.....	3,243	6	71.3		87	29	53	42	20	3.20	-2.19	1.40	0.0	15	13	12	6	sw.
Galax.....	Grayson.....	2,300		67.2		86	30	42	20	36	2.66	-1.03	1.03	0.0	7	15	5	3	sw.
Ivanhoe*.....	Wythe.....	2,028	5	68.8		84	2	50	20	24	2.44	-0.81	0.92	0.0	13	12	12	4	w.
Marion.....	Smyth.....	2,224	14	68.9	-3.6	87	2	44	20	35	4.01	-0.49	0.92	0.0	11	23	5	3	sw.
Max Meadows*.....	Wythe.....	2,028	13	68.6	-2.5	90	2	45	20	37	3.17	-2.36	0.63	0.0	11	11	10	5	sw.
Mondota.....	Washington.....	1,350																Frank M. Baker.	
Radford.....	Montgomery.....	1,773																Arthur Roberts.	
Spears Ferry.....	Scott.....	1,221																Mrs. L. E. Venable.	
Wytheville.....	Wythe.....	2,293	16	67.8	-3.6	86	2	40	20	24	2.67	-1.73	0.94	0.0	13	17	11	3	w.
<i>North Carolina.</i>																		U. S. Weather Bureau.	
Andrews.....	Cherokee.....	2,250	30	70.0	-1.7	87	15	53	20	27	5.54	+0.68	1.28	0.0	15	9	10	12	nw.
Ashville.....	Buncombe.....	3,750	1	64.3		84</td													

TABLE 1.—Climatological data for July, 1909. District No. 3—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.				Precipitation, in inches.				Total snowfall unmeasured.	Number of rainy days .01 inch or more.	Number of partly cloudy days.	Number of cloudy days.	Sky.	Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.							
Alabama—Cont'd.																		
Riverton.	Colbert.	360	12	78.8	- 0.1	98	29	54	24	34	2.58	- 1.80	0.98	0.0	5	18	5	se.
Scottsboro ^a .	Jackson.	652	26	76.1	- 2.2	93	25	53	25	29	4.59	- 0.66	1.12	0.0	9	10	17	4
Tuscumbia.	Colbert.	488	27	79.8	- 0.2	97	2	59	25	31	5.91	+ 1.72	2.01	0.0	7	19	0	12
Tennessee.																		
Ashwood.	Maury.	725	31	76.0	- 2.3	93	29	59	25	35	1.58	- 3.03	0.63	0.0	4	10	10	s.
Benton.	Polk.	880	23	76.5	- 0.3	95	28	53	25	33	3.71	- 0.87	1.26	0.0	9	18	6	n.
Byrdstown.	Pickett.	1,026	15	74.6	- 1.2	91	29	55	25	32	7.97	+ 3.00	1.86	0.0	12	6	24	s.
Carthage.	Smith.	500	27	75.8	- 2.5	96	29	53	29	36	3.36	- 0.96	1.40	0.0	8	19	3	se.
Cedar Hill ⁱ .	Robertson.	625	12	78.7	- 0.1	97	21	57	20	37					0	7	7	s.
Chattanooga.	Hamilton.	808	31	76.8	- 1.0	93	29	60	25	34	4.61	+ 0.74	1.81	0.0	10	8	15	nw.
Clarksville.	Montgomery.	520	43	77.4	- 1.1	97	29	56	25	32	4.23	+ 0.43	1.30	0.0	8	18	8	n.
Decatur.	Melgs.	850	14	76.2	- 1.4	96	3	58	41	33	7.49	+ 2.45	2.78	0.0	15	10	6	sw.
Dickson.	Dickson.	800	13	75.9	- 1.9	93	28	52	25	34	4.14	+ 0.11	1.20	0.0	11	11	5	nw.
Dover.	Stewart.	15	78.3	+ 0.2	95	21	53	20	36	5.85	+ 2.76	2.05	0.0	9	15	10	s.	
Dunlap.	Sequatchee.	726																S. B. Boyd.
Elizabethton.	Carter.	1,575	20	75.3	- 0.5	95	29	53	25	35	2.63	- 1.81	0.56	0.0	9	15	11	w.
Erasmus.	Cumberland.	1,850	13	71.0	- 1.2	90	2	44	25	38	8.02	+ 2.11	3.07	0.0	12	15	11	w.
Florence.	Rutherford.	560	26	76.3	- 1.9	93	29	55	25	28	2.68	- 1.57	1.07	0.0	7	16	9	w.
Franklin.	Williamson.	655	18	76.6	- 1.5	93	29	55	25	27	2.58	- 1.21	1.10	0.0	7	11	8
Harriman.	Roane.	841	14	76.8	+ 0.1	96	1	55	25	35	7.84	+ 2.64	2.88	0.0	12	9	16	s.
Hohenwald.	Lewis.	983	24	76.8	+ 0.2	93	28	53	20	34	4.88	+ 0.09	1.72	0.0	11	10	18	se.
Iron City.	Lawrence.	12	77.0	- 0.9	96	28	51	25	33	3.42	- 0.10	1.24	0.0	6	25	0	nw.	
Johnsonville.	Humphreys.	364	14	78.2	- 0.7	95	31	53	25	34	5.86	+ 1.95	1.32	0.0	13	13	5	s.
Jonesboro.	Washington.	1,740	13	72.0	- 2.6	90	2	53	41	30	3.47	- 1.37	1.10	0.0	8	18	10	sw.
Knoxville.	Knox.	977	39	75.1	- 1.1	92	3	59	25	35	7.01	+ 2.80	2.55	0.0	14	8	11	sw.
Lebanon.	Wilson.	522																Logan Fields.
Lewisburg.	Marshall.	727	16	77.2	- 1.1	95	28	50	25	37	2.50	- 2.19	0.63	0.0	8	12	15	s.
Lynnville.	Giles.	770	21	77.2	- 1.1	93	30	54	25	31	4.46	- 0.78	1.45	0.0	10	13	15	s.
McMinnville.	Warren.	1,011	26	75.2	- 1.2	93	29	52	25	34	6.99	+ 1.71	1.99	0.0	11	10	19	s.
Maryville.	Blount.	1,050	15	75.8	- 2.0	95	3	57	51	31	0.08	+ 4.50	1.67	0.0	15	14	12	e.
Mountain City.	Johnson.	2,486	13	68.6	- 1.2	88	21	40	20	40	5.17	- 0.54	0.88	0.0	10	15	11	Barry.
Nashville.	Davidson.	654	39	77.6	- 1.8	93	21	58	25	38	4.93	+ 0.58	3.43	0.0	9	9	14	w.
Newport ^b .	Cooke.	1,280	19	73.4	- 3.2	87	12	54	20	26	5.30	+ 0.80	1.80	0.0	7	10	6	w.
Palmetto.	Bedford.	770	16	76.8	- 1.4	95	29	53	25	30	3.22	- 2.15	1.17	0.0	10	15	12	sw.
Pinewood ^c .	Hickman.	3	76.0														
Pope.	Perry.	13	78.2	+ 0.3	95	29	56	20	35	2.10	- 1.39	0.75	0.0	4	25	3	s.	
Rogersville.	Hawkins.	1,150	25	73.2	- 1.3	91	2	52	20	30	5.52	+ 0.81	1.90	0.0	15	14	5	e.
Rugby.	Morgan.	1,410	23	72.2	- 1.8	92	2	46	25	39	6.21	+ 0.85	1.50	0.0	11	4	15	nw.
Savannah.	Hardin.	442	26															W. F. Bell.
Sevierville.	Sevier.	4	74.7															H. O. Eckel.
Sewanee.	Franklin.	2,000	15	73.8	- 1.1	93	3	52	20	36	5.92		1.42	0.0	13	4	12	sw.
Sparta.	White.	920	4	75.6														University of South.
Springdale.	Calhoun.	1,058																E. H. Hull.
Springville.	Henry.	377	7	77.4														Mrs. Lucy E. Breeding.
Tellico Plains.	Monroe.																	H. A. Boden.
Tullahoma.	Coffee.	1,075	21	75.8	- 0.4	93	28	50	25	35	2.40	- 2.43	0.78	0.0	8	12	15	s.
Waynesboro.	Wayne.	753	23	76.9	- 0.9	95	29	53	20	33	3.16	- 1.38	0.82	0.0	11	14	14	sw.
Widererville.	Henderson.	12	78.0	+ 0.5	97	28	55	24	35	4.26	+ 0.20	1.44	0.0	5	15	12	s.	
Yukon.	Lincoln.	850	14	77.4	- 1.1	96	29	55	25	32	4.56	+ 0.30	1.70	0.0	8	8	14	w.
Kentucky.																		W. P. Watson.
Alpha.	Clinton.	15	74.5	- 2.0	90	31	54	20	30	3.92	- 1.96	0.92	0.0	7	16	4	11	W. W. Hicks.
Anchorage.	Jefferson.	700	8	72.4														C. E. Barrett.
Bardstown.	Nelson.	637	13	75.6	- 2.9	96	2	53	24	36	9.74	+ 5.13	2.24	0.0	15	0	15	G. M. Talbott.
Beattyville.	Lee.	650	6	73.0														G. W. Cann.
Beaverdam.	Ohio.	441	6	75.8														T. S. Woodward.
Berea.	Madison.	1,070	8	74.0														C. F. Rumold.
Bowling Green.	Warren.	500	20	77.6	- 1.3	95	29	54	20	40	7.19	+ 2.95	3.00	0.0	13	14	5	Mrs. L. G. Causey.
Burnside.	Pulaski.	559	19															G. M. Estes.
Cadiz.	Trigg.	7	77.8															John S. Lawrence.
Calhoun.	McLean.	397	6	77.7														W. A. Taylor.
Catlettsburg.	Boyd.	544	16	75.4 ^b	- 2.1	95 ^b	12	52	19	37	4.36	+ 0.47	1.62	0.0	11	23	3
Earlington.	Hopkins.	370	20	75.3	- 2.0	98	30	49	25	32	4.95	+ 0.56	1.79	0.0	8	23	1	sw.
Edmonton.	Metcalfe.	600	18	74.8 ^d	- 1.0	93 ^d	2	52	25	33	6.23	+ 1.68	2.83	0.0	13	6	20 ^a	s.
Eubank.	Pulaski.	1,177	15	73.2	- 1.8	91	29	53	21	35	4.62	+ 0.52	1.45	0.0	13	18	18	se.
Falmouth.	Pendleton.	530	20															J. V. Oldham.
Farmers.	Rowan.	608	4	72.0														Miss Gertrude Sorrell.
Frankfort.	Franklin.	560	19	73.7	- 3.0	90	1	49	41	33	7.59		2.09	0.0	16	10	14	Gustave Schaefer.
Franklin.	Simpson.	691	16	76.8	- 0.9	95	6	54	20	35	5.24	+ 1.26	1.50	0.0	9	4	24	J. E. Newman.
Greensburg.	Green.	581	17	72.8	- 4.5	93	29	42	25	41	7.95	+ 3.27	1.40	0.0	16	14	1	ne.
Highbridge.	Jessamine.	762	7															Miss Lulu Wood.
Hopkinsville.	Christian.	524	13	78.6	- 0.1	99	30	56	25	37	5.92	+ 2.13	2.10	0.0	0	16	12	17
Irvington.	Breckinridge.	11	75.3	- 2.2	93	29	56	4	30	6.31	+ 3.31	1.26	0.0	11	17	4	sw.	
Leitchfield.	Grayson.	635	14	74.4	- 2.6	91	30	56	20	30	7.77	+ 4.31	3.06	0.0	12	17	7	ne.
Lexington.	Fayette.	989	22	72.7	- 3.9	89	25	55	4	25	5.08	+ 1.54	2.11	0.0	18	12	2	sw.
Lorette.	Marion.	681	12	73.9 ^c	- 2.7	93 ^c	2	51	21	38	6.52	+ 2.60	1.84	0.0	11	17	10
Louisville.	Jefferson.	625	37	76.0	- 2.6	96	29	59	4	28	7.23	+ 3.49	3.08	0.0	12	8	10	ne.
Marion.	Crittenden.	15	76.6	-														

TABLE 1.—Climatological data for July, 1909. District No. 3—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.					Precipitation, in inches.					Sky.	Prevailing wind direction.	Observers.				
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeted.	Number of rainy days .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
<i>Indiana—Cont'd.</i>																				
Cambridge City.	Wayne.	941	10	71.0	- 3.5	93	29†	47	20†	37	5.67	+ 2.44	1.32	0.0	14	17	0	14	sw.	
Columbus.	Bartholomew.	632	18	72.8	- 3.1	96	29	50	41†	36	3.15	+ 0.19	0.92	0.0	11	17	4	10	sw.	
Connersville.	Fayette.	769	20	72.4	- 2.3	95	29	49	20†	38	4.73	+ 1.80	0.80	0.0	12	21	5	5	nn.	
Delphi.	Carroll.	668	16	71.1	- 3.6	95	28†	47	19†	36	4.92	+ 1.63	2.00	0.0	12	7	14	10	...	
Eminence.	Morgan.	782	10	71.5	- 2.9	93	29	50	24	31	5.29	-	1.30	0.0	8	21	7	3	w.	
Evansville.	Vanderburg.	386	10	76.4	- 2.9	95	2	59	54	4	23	5.73	+ 1.92	2.10	0.0	8	11	15	5	ne.
Farmersburg.	Sullivan.	73.4	10	94	20	52	47	29	8.06	1.81	0.0	0	10	17	3	11	sw.			
Farmland.	Randolph.	1,101	20	70.4	- 3.3	88	21†	51	5	27	5.91	+ 2.45	1.69	0.0	10	13	2	16	w.	
Greenfield.	Hancock.	905	10	71.8	-	90	29	51	24	27	5.76	-	2.02	0.0	12	2	23	6	w.	
Greensburg.	Decatur.	954	5	72.7	-	96	20	50	24	29	4.70	+ 0.75	1.15	0.0	11	18	5	8	w.	
Heltonville.	Lawrence.	76.0	-	99	30	53	21†	37	7.76	-	4.55	0.0	7	12	6	c.				
Huntingburg.	Dubois.	741	11	71.8	- 3.2	93	28	50	24	35	2.82	-	0.90	0.0	11	13	9	13	ne.	
Huntington.	Marion.	823	33	72.2	- 4.0	92	30	55	29	24	5.42	+ 1.29	1.91	0.0	13	10	10	10	n.	
Jeffersonville.	Clark.	455	12	75.3	- 2.5	98	29	54	24	31	6.44	+ 2.41	1.86	0.0	15	10	11	10	e.	
Judyville.	Warren.	70.4	-	95	29	54	24	38	3.72	-	1.01	0.0	0	15	6	10	10	...		
Kokomo.	Howard.	840	11	70.8	- 4.5	91	28	49	19†	31	5.84	+ 2.73	1.46	0.0	11	12	10	9	w.	
Lafayette.	Tipppecanoe.	617	22	71.4	- 3.4	94	28†	50	24	30	3.80	+ 0.28	0.93	0.0	7	16	3	12	ne.	
Logansport.	Cass.	620	17	72.6	- 3.1	97	28	49	4†	37	5.99	+ 3.47	2.10	0.0	9	18	4	9	w.	
Madison.	Jefferson.	460	11	75.5	- 2.4	98	1	53	23	35	9.37	+ 6.24	2.73	0.0	11	14	7	10	c.	
Marengo.	Crawford.	363	19	73.5	- 3.4	93	2†	52	47	34	5.57 ^b	-	1.72	0.0	10	15	8	8	sw.	
Marion.	Grant.	814	14	71.6	- 2.7	93	1†	49	19	36	5.39	+ 2.97	2.43	0.0	9	17	7	7	s.	
Marksle.	Huntington.	814	10	73.0	+ 0.1	94	28	47	4	35	2.40	-	0.60	0.0	7	16	9	6	w.	
Maury.	Rush.	980	21	71.0	- 2.4	94	29	50	4	32	4.75	+ 1.89	0.91	0.0	14	10	12	10	nw.	
Moore's Hill.	Dearborn.	72.3	-	92	2	56	25	32	10.25	+ 5.70	4.34	0.0	0	8	22	2	7	sw.		
Mount Vernon.	Posey.	410	15	75.9	- 2.5	96	2	56	25	32	10.25	+ 5.70	4.34	0.0	8	12	12	7	...	
Paoli.	Orange.	611	5	73.2	-	94	30	48	24	38	8.80	+ 6.87	1.27	0.0	12	12	12	12	ne.	
Princeton.	Gibson.	481	19	75.2	- 1.7	98	29†	50	25	33	4.70	-	1.03	0.0	8	22	4	5	...	
Richmond.	Wayne.	972	17	69.7	- 5.0	89	28†	48	41	33	5.84	+ 2.60	1.19	0.0	16	12	11	8	...	
Rochester.	Fulton.	775	-	72.6	-	89	2†	53	47	27	1.88	-	0.70	0.0	9	17	7	7	...	
Rockville.	Parke.	722	15	71.8	- 3.5	92	29	52	24	26	8.89	+ 3.74	1.48	0.0	10	15	5	11	s.	
Rome.	Perry.	370	-	77.3	-	98	29†	54	24	39	5.88	-	1.96	0.0	11	19	7	5	w.	
Salamonia.	Jay.	70.0	-	91	1†	47	4†	36	33	3.33	-	0.72	0.0	0	12	11	5	15	ne.	
Salem.	Washington.	717	11	73.0	- 4.2	94	29†	51	41	36	9.31	+ 6.61	2.00	0.0	0	13	13	3	3	w.
Scottsburg.	Scott.	570	10	75.8	- 2.2	95	2†	56	24	32	10.49	+ 7.47	2.89	0.0	0	12	12	10	9	n.
Seymour.	Jackson.	610	14	74.6	- 2.5	96	1†	49	34	39	4.81	+ 1.48	1.53	0.0	13	9	19	3	sw.	
Shelbyville.	Shelby.	72.0	-	97	29	50	24	31	5.20	-	1.27	0.0	0	13	6	20	5	n.		
Terre Haute.	Vigo.	498	11	75.1	- 3.2	94	29	55	47	28	4.55	+ 1.56	1.04	0.0	10	15	6	10	sw.	
Veedersburg.	Fountain.	612	-	71.7	-	95	1†	41	24	43	3.84	-	0.08	0.0	11	21	4	6	s.	
Vevay.	Switzerland.	525	19	74.8	- 2.6	96	30	56	20	27	7.40	+ 3.95	3.80	0.0	9	7	12	13	se.	
Vincennes.	Knox.	431	10	75.8	- 3.0	97	29†	54	24	34	5.85	+ 1.92	1.30	0.0	9	18	3	10	se.	
Washington.	Davies.	484	7	74.4	-	93	29	55	4†	34	5.54	+ 2.12	1.60	0.0	9	20	2	9	s.	
Whitestown.	Boone.	70.3	-	90	29	51	47	27	5.88	+ 2.21	1.33	0.0	0	14	5	20	6	nw.		
Winona Lake.	Kosciusko.	71.6	-	95	28	48	4†	35	3.53	-	1.74	0.0	0	9	3	23	5	e.		
Worthington.	Greene.	626	20	74.0	- 1.2	94	30	52	24	30	7.61	+ 4.06	1.56	0.0	0	12	12	3	16	...
<i>Illinois.</i>																				
Albion.	Edwards.	531	17	76.6	- 1.5	95	6†	58	4	31	4.93	+ 0.92	1.80	0.0	7	17	5	9	e.	
Cairo.	Alexander.	359	33	79.0	+ 0.4	94	8	63	26	25	3.13	+ 0.32	2.03	0.0	7	15	7	9	s.	
Charleston.	Coles.	720	18	73.1	- 3.3	94	29	50	4	32	9.08	+ 5.18	2.72	0.0	10	14	2	7	ne.	
Equality.	Gallatin.	421	9	77.9	- 1.0	99	2	57	4	37	8.19	+ 3.69	2.40	0.0	10	9	19	3	s.	
Fairfield.	Wayne.	495	18	75.1	- 2.6	96	21	52	25	38	5.35	+ 1.36	1.43	0.0	10	21	2	8	ne.	
Flora.	Clay.	495	23	75.5	- 1.0	99	30	54	41	35	6.57	+ 2.14	1.30	0.0	0	13	17	10	4	se.
Colonda.	Pope.	500	30	78.8	+ 0.3	98	28	54	25	37	4.09	+ 0.64	1.34	0.0	0	9	16	7	8	sw.
Hooperston.	Vermillion.	715	7	71.0	-	93	29	48	4†	30	6.07	-	1.71	0.0	0	13	19	6	6	...
McLeansboro.	Hamilton.	462	26	75.3	- 2.3	94	6	58	25	28	6.34	+ 3.12	2.45	0.0	7	16	8	7	n.	
Martinsville.	Clark.	630	20	74.2	- 2.1	102	29	51	19	39	9.43	+ 5.73	3.85	0.0	12	12	3	16	n.	
New Burnside.	Johnson.	556	14	76.8	- 2.6	94	2	58	20	35	3.28	+ 1.13	1.02	0.0	7	19	3	9	sw.	
Olnsey.	Richland.	486	19	75.7	- 2.4	97	20	52	27	33	5.03	+ 1.30	1.46	0.0	9	12	10	9	sw.	
Palestine.	Crawford.	500	26	74.2	- 2.2	97	30	51	24	39	5.24	+ 1.61	2.61	0.0	8	10	13	8	sw.	
Paris.	Edgar.	600	13	73.0	- 3.9	95	29†	50	4	32	4.96	+ 1.69	1.80	0.0	9	16	12	3	se.	
Philo.	Champaign.	700	24	71.4	- 3.2	95	29	49	4†	33	8.16	+ 4.28	4.08	0.0	8	17	8	6	ne.	
Rantoul.	do.	768	18	72.0	- 3.6	96	29	47	4	34	3.27	+ 0.64	1.58	0.0	9	21	2	8	nw.	
Robinson.	Crawford.	500	9	74.4	-	95	29†	52	19	32	8.04	+ 3.59	3.80	0.0	11	14	14	3	sw.	
Summer.	Lawrence.	459	10	74.2	-	92	29†	55	19†	28	3.56	-	0.88	0.0	7	22	0	9	n.	
Tuscola.	Douglas.	644	10	71.0	-	93	29	49	4	30	7.57	-	3.15	0.0	9	7	20	4	no.	
Urbana.	Champaign.	725	7	71.0	-	93	29	49	4	30	7.57	-	3.15	0.0	9	7	20	4	no.	

• Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.

• Precipitation included in that of the next measurement.

† Also on other dates.

§ Data are from standard instruments not supplied by the U. S. Weather Bureau.

|| Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

¶ Estimated by observer.

|| Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

*, †, ‡, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

Charles Lemberger.
John A. Perry.
C. C. Hibbs.
R. L. Higgins & Son
Dr. E. E. Kelso.
U. S. Weather Bureau
Maurice Yeager.
W. J. Davison.
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Charles H. Ewing.
E. L. Palmer.
H. Dufendach.
Charles McGrew.
U. S. Weather Bureau
John C. Loomis.
D. R. Warrick

TABLE 2.—*Daily precipitation for July, 1909. District No. 3, Ohio Valley.*

Stations.	River basins.	Day of month.																														Total			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
New York.																																			
Allegany.	Allegheny.																																		3.63
Bolivar.	do.																																	1.38	
Franklinville.	do.																																	2.69	
Jamestown.	do.																																	2.72	
Clean.	do.																																		
Maryland.																																			
Deer Park.	Youghiogheny.																																	4.27	
Grantsville.	do.																																	1.25	
Oakland.	do.																																	3.06	
Pennsylvania.																																			
Aleppo.	Ohio.																																	4.50	
Baldwin.	Allegheny.																																	2.79	
Beaver Dam.	Ohio.																																	3.37	
California.	Monongahela.																																		
Clarion.	Allegheny.																																	2.21	
Clayeville.	Ohio.																																	3.43	
Confluence.	Youghiogheny.																																	2.87	
Davis Island Dam.	Ohio.																																	1.07	
Derry Station.	Allegheny.	T.																																2.50	
Franklin.	do.																																	3.35	
Freeport.	do.																																	2.92	
Greensboro.	Monongahela.																																	3.06	
Greensburg.	Youghiogheny.	04																																1.18	
Greenville.	Ohio.																																	2.68	
Grove City.	do.																																	1.55	
Herrs Island Dam.	Allegheny.	T.																																3.41	
Indiana.	do.																																	1.88	
Irwin.	Monongahela.	03 T.																																1.68	
Johnstown.	Allegheny.																																	3.10	
Lock No. 4.	Monongahela.	04																																3.05	
Lycippus.	Allegheny.	T. T.																																2.96	
Parkers Landing.	do.																																	1.22	
Pittsburg.	Ohio.																																	2.64	
Saegeertown.	Allegheny.																																	3.05	
St. Marys.	do.																																	1.95	
Saltsburg.	do.																																	1.66	
Skidmore.	Youghiogheny.																																	2.44	
Somerset.	do.																																	2.19	
Springdale.	Allegheny.	01																																4.03	
Uniontown.	Monongahela.	03																																2.78	
Warren.	Allegheny.																																	2.57	
West Newton.	Youghiogheny.	T.																																3.07	
West Virginia.																																			
Arbovale.	Great Kanawha.	04	01	04	48																													3.70	
Bancroft	do.	82																																5.21	
Beckley.	do.		2.192	30	05																												10.50		
Ben's Run.	Bluefield.																																	3.40	
Brandonville.	Monongahela.	38	03	1.40	75																													4.44	
Bucknannon.	do.																																	4.51	
Cairo.	Little Kanawha.																																	5.61	
Central Station.	Middle Island Creek.																																	3.07	
Charleston	Great Kanawha.	77																																5.60	
Creston	Little Kanawha.																																	4.91	
Cuba.	Sand Creek.																																	4.50	
Davis.	Monongahela.																																	4.50	
Doane.	Big Sandy.																																	4.50	
Elizabeth.	Little Kanawha.																																	4.85	
Elkins.	Monongahela.																																	4.85	
Ekhorn.	Big Sandy.	19		1.08	1.26																											7.89			
Fairmont.	Monongahela.	63																																4.30	
Glenville	Little Kanawha.																																	4.31	
Grafton	Monongahela.																																		
Green Sulphur Springs.	Great Kanawha.																																	4.50	
Hinton	do.	40		1.94	2.00	12	</td																												

TABLE 2.—*Daily precipitation for July, 1909. District No. 3—Continued.*

TABLE 2.—*Daily precipitation for July, 1909. District No. 3—Continued.*

Stations.	River basins.	Day of month.																													Total.						
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31					
<i>Alabama—Cont'd.</i>																																					
Scottsboro.	Tennessee	T. 22				T.		.54	1.13	.43						.08	.42		T.															.75	.15	4.59	
Tuscumbia.								.75	1.47							2.01	2.12																	1.85	5.91		
<i>Tennessee.</i>																																					
Ashwood.	Tennessee							T.	.30	.40						.25	T.																		1.58		
Benton.		do	19					T.	.70	.58	.07					T.	1.26		T.															3.71			
Bird's Bridge		do						1.12	.39	.35						.06	.47																	3.40			
Bluff City		do	16	20				.40	.46	.58						.48	.98																	3.44			
Byrdstown.	Cumberland	.05		.02				1.61	1.70	.86	T.					1.38	T.																	7.97			
Carthage		do	16		.08				1.40	.80	.04						.10																	3.36			
Center Point.	Tennessee	.90	10					1.00	.20							.21																		4.33			
Cedar Hill	Cumberland		do	48				T.	2.00	3.05						T.	1.20		T.															4.33			
Celina		do	67					.90	1.05							1.98		T.	10															5.36			
Charleston	Tennessee		do	19				.54	1.71	.75	.09					.34		.06															5.36				
Chattanooga.	Cumberland	10						1.05	.40							.35																		4.61			
Clarksville.	Tennessee	30		10	T.			.55	.95	2.10	T.					3.15		.35															4.26				
Clinton		do	34					02	1.56	.46	.38					.82		.30															11.98				
Decatur.		do	21	01				30	.35	1.31	.05					04	2.78		48													01.59					
Dickson.	Cumberland	.52	18					1.3	.40	.65						.31		.39															4.14				
Dover.		do	29					.90	.26							.43		T.																5.85			
Dunlap.	Tennessee																																				
Elizabethhton		do						.33	.50	.56						.15		.15															2.63				
Erasmus.	Cumberland	11						3.07	.38	.65	.31	.05	T.			.75																8.02					
Florence.		do	03					.09	.65	1.07	.05		T.			T.																2.68					
Franklin.		do						T.	T.							1.10	.74	.04	T.	.30													2.58				
Hall's Hill		do						.38		1.32	1.55	.58					.54															5.26					
Harrison.	Tennessee	.03						.70	.35	1.73						.88																	7.84				
Hohenwald.		do	10					.06	1.72	.42	.02					.60		.74															4.88				
Iron City.		do						1.24	.13							.65																		3.42			
Johnsonville.		do	20	10				.64	.74	.34						1.04																	1.03				
Jonesboro.		do						1.10	.32	.68						.47	.09																5.86				
Kington		do	17	2.00	T.			1.08	1.03	.96						.11	.41															3.47					
Knoxville.		do	43	.06				.60	1.91	.47						T.	2.58																7.52				
Lebanon.	Cumberland																																				
Lewisburg.	Tennessee																																			2.50	
Loudon		25	1.25						2.60	1.30	1.80						T.	2.80		T.	15												11.20				
Lynnville.		do						1.45	.52	.20	T.					.49																		4.46			
McGhee		do	70					.30	.80	.20	T.					.93		.20	.50														1.00				
McMinnville.	Cumberland	71						03	1.93	1.53	.17	.01				T.	1.30		.30	.07											6.73						
Maryville.	Tennessee	38	.68					97	1.03	1.40	.15					.67		.15	.11													6.99					
Mountain City.		do	34	.48				.88	.18	.12						.72																		5.17			
Nashville.	Cumberland	.07						3.03	.49	.01	T.					.07	T.																	2.50			
Newport.	Tennessee							T.	0.45	1.80	.45					1.30																	5.30				
New River	Cumberland	18	10					1.29	1.85	1.28						.72																	1.91				
Palmetto.	Tennessee	22	T.					1.17	.42	.03						.45	.20		.07														3.22				
Pinewood.		do																																			2.10
Pope.		do	70					.30	.35	.75						.06	1.00		.06														5.52				
Rogersville.		do						T.	T.	.08																									3.21		
Rugby.	Cumberland	06						.50	.35	1.50	T.					.13		.45															3.21				
Savannah.	Tennessee																																				6.21
Sevierville.		do	09						23	.46	1.04	.01					.97	.09		.65												5.92					
Sewanee.		do	06																																	2.71	
Sparta.	Cumberland	1.40																																		4.98	
Springdale.	Tennessee																																				5.53
Springville.		do	65	.02					1.10	.60	.01					.78			.08														5.53				
Tazewell		do	30	.05					3.03	.30	.80						.15																2.40				
Tellico Plains.		do	07						.53	.78	.20	T.					.26	.40		.10													5.47				
Tullahoma.		do	20						1.05	.80	.04					.03	.03	01	2.30													4.47					
Walling	Cumberland	10	.09						2.00	.84						.04																	3.16				
Waynesboro.	Tennessee	10							.73	.16						.04	.48	</td																			

TABLE 2.—*Daily precipitation for July, 1909. District No. 3—Continued.*

TABLE 3.—Maximum and minimum temperatures at selected stations, July, 1909. District No. 3, Ohio Valley.

Date.	Pennsylvania.						West Virginia.												Ohio.									
	Greenville.		Pittsburg.		Charleston.		Elkhorn.		Elkins.		Glenville.		Huntington.		Morgantown.		Parkersburg.		Wheeling.		Canton.		Cincinnati.		Columbus.		Dayton.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	88	53	88	63	90	70	87	63	86	62	93	67	91	70	88	63	89	70	96	59	58	92	70	88	66	93	62	
2...	83	51	82	61	86	65	87	60	83	61	91	64	91	66	83	60	87	68	89	61	59	90	71	88	66	90	64	
3...	72	54	75	58	89	67	81	60	78	56	85	65	80	70	79	63	77	59	79	63	58	76	63	58	73	64		
4...	71	41	70	50	83	52	81	47	87	47	79	46	78	51	68	46	70	53	79	43	69	47	75	53	72	50		
5...	80	42	76	53	73	64	78	47	76	50	80	53	75	58	78	53	74	60	82	50	49	73	58	68	54			
6...	82	45	82	61	70	61	71	53	72	55	77	60	69	61	74	60	75	58	82	52	80	67	58	75	55			
7...	80	48	80	64	82	65	71	61	73	56	86	64	83	62	79	59	68	66	87	56	79	63	82	63	84	58		
8...	84	43	82	58	86	67	73	55	84	47	80	52	83	60	83	56	83	59	88	52	81	64	83	59	85			
9...	88	48	86	58	85	60	73	51	81	52	92	56	87	61	85	56	86	60	91	53	84	65	86	64				
10...	88	57	86	68	87	62	78	53	85	51	91	56	90	64	85	61	85	65	93	55	87	68	86	66				
11...	87	64	84	70	89	69	84	56	85	58	89	64	88	70	86	67	83	71	83	62	81	68	79	68				
12...	88	68	84	67	90	70	86	59	88	58	83	63	94	74	81	68	87	63	88	67	84	66	85	68				
13...	88	68	81	68	89	68	87	67	80	63	85	65	83	69	79	65	82	68	86	66	84	67	85	66				
14...	83	60	84	68	87	70	86	59	83	63	89	65	91	70	85	63	86	71	91	64	83	68	86	67				
15...	89	60	85	70	87	69	85	63	84	62	90	66	90	67	85	69	88	91	65	84	65	88	67					
16...	83	66	79	65	86	70	88	66	86	60	86	65	88	70	86	68	83	71	83	62	80	67	82	64				
17...	77	57	76	64	84	59	85	60	88	58	84	60	86	62	89	64	85	58	83	74	60	83	61	83				
18...	79	51	75	59	84	56	80	55	77	53	82	57	84	60	79	56	81	57	82	55	75	56	82	63				
19...	74	44	73	53	78	54	77	50	70	45	79	40	78	52	72	47	73	53	80	47	71	48	77	58				
20...	80	42	77	53	82	53	86	56	78	45	81	54	83	63	75	46	77	51	86	47	77	50	82	51				
21...	78	52	76	60	83	55	82	52	49	79	47	85	54	88	55	79	53	84	56	85	50	79	59	84	55			
22...	90	55	88	63	86	60	83	53	85	51	91	56	92	72	89	57	90	58	93	51	86	59	91	61				
23...	80	61	71	53	82	64	83	61	72	58	86	63	83	72	67	73	62	73	62	86	63	78	60					
24...	78	50	73	55	76	60	75	55	71	54	79	53	81	60	73	55	77	66	74	73	79	56	77	61				
25...	85	49	80	53	85	56	81	54	78	51	85	55	85	55	79	57	83	58	88	53	82	60	81	53				
Mns	82.9	54.9	80.3	62.1	84.8	63.4	81.2	57.6	79.6	55.9	86.5	59.2	85.3	63.4	81.1	59.9	82.3	62.5	86.2	57.5	79.3	59.0	83.0	65.1	81.7	62.3	83.0	61.3

Date.	Ohio.						Virginia.						Tennessee.						West Virginia.						Kentucky.					
	Marion.		Waverly.		Big Stone Gap.		Wytheville.		Asheville, N. C.		Decatur, Ala.		Chattanooga.		Jonesboro.		Knoxville.		Nashville.		Palmetto.		Sparta.		Waynesboro.		Beattyville.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	91	57	93	68	85	67	84	68	82	67	90	70	88	73	88	69	84	71	85	73	88	71	88	70	87	73	94	66		
2...	89	59	91	65	86	67	84	68	86	65	91	70	89	70	86	66	89	70	91	69	90	64	89	66	92	64	92	64		
3...	80	59	79	68	85	64	80	61	88	62	93	71	88	72	88	63	92	70	93	69	92	67	86	65	92	66	92	65		
4...	80	48	76	49	73	75	71	52	76	60	85	72	81	67	79	53	80	62	82	61	81	61	82	68	83	78	49			
5...	74	57	70	59	80	52	76	50	77	60	95	63	93	60	95	63	87	60	85	60	90	57	91	58	82	50	92			
6...	85	57	70	57	76	70	73	63	78	65	95	71	90	73	77	65	82	70	93	76	88	60	92	75	82	57				
7...	88	55	84	59	78	61	79	59	83	53	95	71	90	73	88	68	81	73	85	78	64	80	63	85	77	86				
8...	91	51	86	55	75	65	83	63	86	56	94	71	92	73	88	62	83	73	92	76	88	66	92	74	84					
9...	93	54	87	63	77	63	70	55	85	56	98	74	95	75	88	60	87	68	90	70	86	66	93	71	84					
10...	89	60	89	62	80	60	75	52	72	59	80	70	89	66	88	60	87	66	90	78	86	68	93	71	84					
11...	83	66	83	72	85	67	82	55	80	55	88	68	86	63	87	63	84	65	82	68	82	63	86	71	85	65				
12...	91	66	87	73	82	63	80	60	87	56	95	73	87	68	88	66	89	74	90	71	87	67	93	73	87					
13...	87	65	88	68	83	63	80	67	89	61	96	75	92	69	82	65	88	63	99	74	93	67	93	73	84					
14...	88	63	83	63	80	65	82	63	83	63	88	70	81	68	85	63	85	67	90	78	87	66	91	71	84					
15...	90	64	89	64	83	62	83	59	87	60	90	70	89	68	89	60	88	67	90	71	88	65	91	71	84					
16...	83	63	86	63	84	66	80	52	74	57	89	67	83	65	86	69	87	72	88	69	87	66	90	76	86					
17...	83	57	85	59	81	60	78	58	80	62	85	69	94	70	87	67	85	65	84	72	88	64	83	70	86					
18...	83	53	83	58	81	58	79	54	82	58	88	64	88	66	85	65	85	64	88	64	87	60	85	61	86					
19...	83	47	70	49	76	62	72	52																						

TABLE 3.—*Maximum and minimum temperature at selected stations, July, 1909. District No. 3—Continued.*

Date.	Kentucky.												Indiana.												Philo, Ill.			
	Bowling Green. §§		Erlinton. §§		Greensburg. §§		Lexington.		Louisville.		Mayfield. §§		Williamsburg. §§		Butlerville.		Evansville.		Indianapolis.		Kokomo.		Rockville.		Worthington.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1...	96	70	92	66	91	67	88	68	92	94	67	87	70	92	65	91	73	90	66	89	59	88	63	91	65	89	58	
2...	96	67	97	61	91	64	88	70	93	72	93	64	90	66	93	66	95	73	88	67	89	59	88	65	91	70	92	63
3...	95	69	93	66	90	67	80	60	82	66	83	64	88	67	80	65	84	67	74	59	87	63	79	63	87	71	77	59
4...	87	58	85	55	78	49	72	55	78	59	79	49	76	56	78	50	80	59	76	55	82	50	76	53	79	54	77	49
5...	94	57	91	55	87	54	77	59	79	62	79	56	85	55	70	59	82	68	57	75	57	75	53	74	61	66	58	
6...	95	72	95	62	85	60	81	63	82	64	88	59	86	60	70	58	91	73	66	57	63	55	70	58	77	62	69	59
7...	87	73	89	63	78	70	74	66	76	68	82	59	87	70	78	62	78	70	79	61	83	60	76	62	76	64	73	63
8...	83	70	78	66	75	68	73	65	79	69	84	57	75	69	84	62	81	69	84	63	80	55	83	63	84	68	82	60
9...	80	67	79	67	80	65	78	65	80	68	89	59	81	62	86	62	79	69	85	64	86	56	84	62	84	67	87	60
10...	80	65	81	64	78	65	82	69	82	69	91	59	81	64	84	67	77	69	83	68	85	63	80	66	81	67	83	65
11...	85	68	83	62	80	66	80	70	81	69	85	65	84	65	78	64	81	69	77	68	79	67	80	65	80	70	81	66
12...	95	70	93	69	89	67	88	68	89	72	93	73	90	68	88	69	88	68	84	66	87	67	84	65	87	69	86	63
13...	91	70	90	66	85	66	82	68	87	69	88	66	85	72	83	65	88	67	85	67	84	60	84	65	86	68	85	62
14...	90	65	90	60	88	68	83	67	88	71	89	62	85	65	85	67	87	73	83	68	83	62	82	65	85	65	84	61
15...	94	69	93	65	89	61	86	66	90	65	91	65	90	66	88	68	88	71	86	64	85	66	87	67	87	61	87	61
16...	90	68	89	66	85	65	81	63	85	69	80	65	83	70	83	67	84	68	82	66	80	59	80	61	83	64	82	58
17...	92	63	90	57	85	58	81	64	86	67	86	58	90	63	84	60	86	68	82	64	87	67	84	62	84	61	86	58
18...	92	61	92	58	85	60	81	65	86	67	83	56	87	64	84	63	86	69	81	61	73	62	80	65	83	65	82	64
19...	81	62	85	59	79	58	74	59	80	61	82	50	80	62	79	53	79	61	77	56	77	49	78	53	79	54	78	49
20...	88	54	88	50	85	50	76	57	82	62	84	51	81	53	82	53	81	61	80	60	80	49	78	57	79	55	81	55
21...	96	56	95	53	90	52	86	61	90	63	91	54	87	56	86	56	89	61	84	62	80	54	83	58	85	55	86	53
22...	92	70	97	59	90	59	89	68	94	73	95	56	90	60	90	69	90	71	84	68	83	63	83	68	88	69	84	62
23...	84	64	84	62	80	63	75	62	82	68	83	56	87	64	84	63	81	68	77	59	81	61	78	62	80	63	81	59
24...	85	57	88	53	80	53	74	55	80	60	82	53	83	69	80	50	80	63	78	55	78	50	80	52	81	51	81	52
25...	89	55	89	49	83	42	79	59	84	61	87	52	84	56	84	53	82	61	82	60	82	51	82	57	83	55	85	52
26...	78	62	74	61	77	55	76	64	76	66	84	56	79	61	74	63	73	66	73	65	75	58	73	64	79	65	70	63
27...	86	65	90	62	73	63	80	63	84	65	85	58	85	65	82	62	82	67	76	62	80	63	77	63	78	62	82	62
28...	96	68	96	66	85	67	84	68	92	72	92	63	85	70	92	65	91	74	90	70	91	66	89	72	90	73	92	72
29...	98	72	97	68	93	68	88	71	96	73	95	65	95	69	94	74	93	75	91	67	88	69	92	71	92	77	95	75
30...	96	69	98	72	90	66	87	69	94	66	93	69	91	71	93	68	93	72	92	69	87	67	90	70	94	71	92	71
31...	92	70	89	63	89	67	84	67	88	71	93	67	90	70	87	69	87	72	77	69	76	66	80	70	81	71	82	68
Mns	89.8	65.3	89.3	61.3	84.2	61.3	80.9	64.5	85.1	67.0	86.4	60.0	85.3	64.5	83.7	62.4	84.3	68.0	81.0	63.5	82.1	59.4	81.1	62.5	83.5	64.4	82.2	60.6